UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/216,604	12/17/1998	YAJUN GUO		9403

22249 7590 03/15/2002

LYON & LYON LLP
633 WEST FIFTH STREET
SUITE 4700
LOS ANGELES, CA 90071

EXAMINER	
EWOLDT, GERALD R	
ART UNIT	PAPER NUMBER
1644	15

DATE MAILED: 03/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/216,604	Applicant(s) Guo
	Examiner G.R. Ewoldt	Art Unit 1644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Jan 22, 2002* .

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *85-90* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☐ Claim(s) _____ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☒ Claims *85-90* are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☐ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
18) ☐ Interview Summary (PTO-413) Paper No(s). _____
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other:

DETAILED ACTION

1. The location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Dr. Gerald Ewoldt, Art Unit 1644, Technology Center 1600.

2. The request filed on 1/22/02 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/216,604 is acceptable and a CPA has been established. An action on the CPA follows.

3. Restriction to one of the following inventions is required under 35 U.S.C. § 121:

I. Claim 85, drawn to a method of preparing an immunogenic composition comprising:
a) providing an autologous target diseased cell;
b) increasing concentration of primary T cell activation molecules or costimulatory T cell activation molecules in the target diseased cell;
c) providing a bridge molecule including one or more binding sites for one or more costimulatory molecules on a surface of one or more T cells of a patient mammal;
d) attaching the bridge molecule to the target diseased cell; and
e) collecting a pharmaceutically effective amount of the target diseased cell with the attached bridge molecule, classified in Class 424, subclasses 277.1 and 278.1, and Class 435, subclass 325.

II. Claim 86, drawn to a method of preparing an immunogenic composition comprising:
a) providing an autologous target diseased cell;
b) increasing concentration of primary T cell activation molecules or costimulatory T cell activation molecules in the target diseased cell;
c) treating the target diseased cell;
d) providing a bridge molecule including one or more binding sites for one or more costimulatory molecules on a surface of one or more T cells of a patient mammal,
e) attaching the bridge molecule to the target diseased cell; and
f) collecting a pharmaceutically effective amount of the target diseased cell with the attached bridge molecule, classified in Class 424, subclasses 277.1 and 278.1, and Class 435, subclass 325.

III. Claim 87, drawn to an immunogenic composition comprising an antigen pulsed-dendritic cell, classified in Class 424, subclasses 93.2, 93.71 and 277.1, and Class 435, subclass 325.

IV. Claim 87, drawn to an immunogenic composition comprising a nucleic acid-transfected dendritic cell, classified in Class 424, subclasses 93.2, 93.71 and 277.1, and Class 435, subclass 362.

V. Claims 88-89, drawn to a method of preparing a pharmaceutical composition comprising:

a) providing a plurality of dendritic cells or a plurality of macrophages pulsed with one or more antigens associated with target hepatocellular carcinoma cells, target lymphoma cells, target colon carcinoma cells or target gastric cancer cells;

b) associating the one or more antigens with the dendritic cells or the macrophages;

c) providing bispecific monoclonal antibodies including (I) one or more binding sites for one or more CD28 or 4-1BB molecules, the CD28 or 4-1BB molecules being located on a surface of one or more T cells of a patient mammal, and (ii) one or more binding sites for the one or more antigens;

d) attaching the bispecific monoclonal antibodies to the dendritic cells or the macrophages; and

e) collecting a pharmaceutically effective amount of the dendritic cells or the macrophages with the bispecific monoclonal antibodies attached thereto, wherein the dendritic cells or the macrophages are fused with the target hepatocellular carcinoma cells, the target lymphoma cells, the target colon carcinoma cells or the target gastric cancer cells of the patient mammal, classified in Class 424, subclasses 93.2, 93.71 and 277.1, and Class 435, subclass 325.

VI. Claims 88-89, drawn to a method of preparing a pharmaceutical composition comprising:

a) providing a plurality of dendritic cells or a plurality of macrophages transfected with nucleic acid capable of expressing the one or more antigens;

b) associating the one or more antigens with the dendritic cells or the macrophages;

c) providing bispecific monoclonal antibodies including (I) one or more binding sites for one or more CD28 or 4-1BB molecules, the CD28 or 4-1BB molecules being located on a surface of one or more T cells of a patient mammal, and (ii) one or more binding sites for the one or more antigens;

d) attaching the bispecific monoclonal antibodies to the dendritic cells or the macrophages; and

e) collecting a pharmaceutically effective amount of the

dendritic cells or the macrophages with the bispecific monoclonal antibodies attached thereto, wherein the dendritic cells or the macrophages are fused with the target hepatocellular carcinoma cells, the target lymphoma cells, the target colon carcinoma cells or the target gastric cancer cells of the patient mammal, classified in Class 424, subclasses 93.2, 93.71 and 277.1, and Class 435, subclasses 325 and 455.

VII. Claim 90, drawn to a method of preparing a pharmaceutical composition comprising:

a) providing a plurality of dendritic cells or a plurality of macrophages pulsed with one or more antigens associated with target hepatocellular carcinoma cells, target lymphoma cells, target colon carcinoma cells or target gastric cancer cells;

b) associating the one or more antigens with the dendritic cells or the macrophages;

c) providing bispecific monoclonal antibodies including (I) one or more binding sites for one or more CD28 or 4-1BB molecules, the CD28 or 4-1BB molecules being located on a surface of one or more T cells of a patient mammal, and (ii) one or more binding sites for the one or more antigens;

d) attaching the bispecific monoclonal antibodies to the dendritic cells or the macrophages; and

e) collecting a pharmaceutically effective amount of the dendritic cells or the macrophages with the bispecific monoclonal antibodies attached thereto, wherein the dendritic cells or the macrophages are fused with the target hepatocellular carcinoma cells, the target lymphoma cells, the target colon carcinoma cells or the target gastric cancer cells of the patient mammal,

f) attaching the bispecific monoclonal antibodies to the one or more CD28 or 4-1BB molecules,

classified in Class 424, subclasses 93.2, 93.71 and 277.1, and Class 435, subclass 325.

VIII. Claim 90, drawn to a method of preparing a pharmaceutical composition comprising:

a) providing a plurality of dendritic cells or a plurality of macrophages transfected with nucleic acid capable of expressing the one or more antigens;

b) associating the one or more antigens with the dendritic cells or the macrophages;

c) providing bispecific monoclonal antibodies including (I) one or more binding sites for one or more CD28 or 4-1BB molecules, the CD28 or 4-1BB molecules being located on a surface of one or more T cells of a patient mammal, and (ii) one or more binding sites for the one or more antigens;

d) attaching the bispecific monoclonal antibodies to the dendritic cells or the macrophages; and

e) collecting a pharmaceutically effective amount of the dendritic cells or the macrophages with the bispecific monoclonal antibodies attached thereto, wherein the dendritic cells or the macrophages are fused with the target hepatocellular carcinoma cells, the target lymphoma cells, the target colon carcinoma cells or the target gastric cancer cells of the patient mammal,

f) attaching the bispecific monoclonal antibodies to the one or more CD28 or 4-1BB molecules,

classified in Class 424, subclasses 93.2, 93.71 and 277.1, and Class 435, subclasses 325 and 455.

4. Inventions I-II and V-VIII are different methods. Said methods comprise different method steps, and/or different starting materials or reagents resulting in different products. Therefore the methods are patentably distinct.

5. Inventions III-IV and V-VIII are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)).

In the instant case the process as claimed can be used to produce a composition for *in vitro* use or testing and not for pharmaceutical use.

6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

7. Regardless of whichever Group Applicant elects, Applicant is further required under 35 U.S.C. § 121 to elect:

A) a **specific** target diseased cell and a **specific** bridge molecule, if Group I or Group II is elected,

B) a **specific** antigen, if any of Group III-VIII is elected,

Additionally Applicant is required to list all claims readable thereon. Currently Claims 85-90 are generic.

8. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the

inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

The different target diseased cells comprise significantly different antigens, said antigens themselves comprising different proteins that would elicit different immune responses. The different bridge molecules also comprise different, patentably distinct proteins. Therefore, the species of Groups I-VIII are independent and patentable over one another.

9. Applicant is advised that the response to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed.

10. Any inquiry concerning this communication from the examiner should be directed to Dr. Gerald Ewoldt whose telephone number is (703) 308-9805. The examiner can normally be reached Monday through Thursday from 7:30 am to 5:30 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (703) 308-3973.

Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center telephone number is (703) 305-3014.

G.R. Ewoldt, Ph.D.
Patent Examiner
Technology Center 1600
March 14, 2002